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EXAMINER
HANNAHER, CONSTANTINE

ART UNIT	PAPER NUMBER
2878	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/735,131	Applicant(s) HOFFMAN, DAVID M.	
	Examiner Constantine Hannaher	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-8,11-16,18,19,22,24-26 and 28-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-8,11-16,18,19,22,24-26 and 28-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 December 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. Figs. **1** and **2** should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 4, 6, 15, 16, 18, 19, 24, 22, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman *et al.* (US006144718A) in view of Schafer *et al.* (US006091795A).

With respect to independent claim 4, Hoffman *et al.* discloses a finished detector module assembly **20** (Fig. **4**) suitable for use in a computed tomography (CT) imaging system (Fig. **2**) comprising a substrate **100**, an array of photosensors **66** mounted on the substrate **100** (Fig. **5**), an array of scintillators **74** optically coupled to the photosensor array (column 3, lines 18-19), and a flexible electrical cable **70** electrically coupled to the photosensor array. Although scintillators **74** are positioned "above" and "adjacent" photodiodes **66** (column 3, line 16), Hoffman *et al.* does not explicitly state that a gap is present. Nevertheless, in a finished detector module assembly suitable for use in a CT imaging system, the presence of a gap filled with a member of the recited group is completely well known. Schafer *et al.* discloses finished detector module assembly **10** suitable for use

in a CT imaging system (Fig. **6**, column 5, line 64). The assembly **10** of Schafer *et al.* (Fig. **1-4**) comprises a substrate **12**, an array **14** of photosensors mounted on the substrate, an array **18** of scintillators **22** optically coupled to the photosensor array and separated therefrom by a gap ("region") containing medium **34**. The medium **34** is "air" (column 7, line 50) or silicone which qualifies as compliant based on its physical properties and clear based on the requirement of Schafer *et al.* for "optically transmissive" at column 7, lines 49-50. The standoff between the photodiode array and the scintillator crystal assembly in Schafer *et al.* protects fragile elements like wire leads **19**. The assembly **20** of Hoffman *et al.* likewise has fragile elements (for example, wire bonds **300**) thereon which one of ordinary skill in the art would have found obvious to protect when packing a plurality of photodiodes **66** and adjacent scintillators **74** together. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly **20** of Hoffman *et al.* to comprise a separation between the photosensor array and the array of scintillators to protect relatively fragile features on the photosensor array as suggested by Schafer *et al.*, and further to fill the gap with a member from the recited group to facilitate transmission of light as suggested by Schafer *et al.* Furthermore, the assembly **10** of Schafer *et al.* comprises a clamping mechanism (grids **24** and **28**) clamping the array of scintillators **22** in place above and aligned with (Fig. **4**) the photosensor array. In view of the structural support and stability suggested by Schafer *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly **20** of Hoffman *et al.* to further comprise such a clamping mechanism. The thermal coefficient of expansion of the clamping mechanism suggested by Schafer *et al.* is relatively low (column 6, line 65). Since this lends structural support and stability to the detector array, and not just the scintillators **22**, it is considered that the "relatively" in the comparison made by Schafer *et al.* is with respect to the substrate **12**.

With respect to dependent claim 6, the assembly suggested by Schafer *et al.* fills the gap with air (column 7, line 50 and column 8, line 31).

With respect to dependent claim 15, the assembly suggested by Schafer *et al.* fills the gap with a compliant, clear film (column 7, line 50 and column 8, line 31).

With respect to dependent claim 16, the materials suggested by Schafer *et al.* for the medium **34** (for example, silicone or epoxy) are recognized as adhesive films.

With respect to dependent claims 18 and 19, the medium **34** suggested by Schafer *et al.* is one or more of the recited materials (column 7, lines 50-51 and column 8, line 31-32).

With respect to independent claim 24, Hoffman *et al.* suggests a method for making the illustrated finished detector module **20** suitable for use in CT imaging systems, in which the module **20** includes an array of photosensors **66** optically coupled to an array of scintillators **74**, which would comprise the steps of disposing photosensor array **66** to a substrate **100**, electrically bonding a flexible cable **70** to the photosensor array **66**, and placing a scintillator array **74** on top of the photosensor array. Although scintillators **74** are positioned "above" and "adjacent" photodiodes **66** (column 3, line 16), Hoffman *et al.* is silent as to any adhesion or the presence of a preformed, compliant, clear film. Nevertheless, in a method of making a finished detector module suitable for use in a CT imaging system, the presence of adhesives and a preformed, compliant, clear film is suggested by Schafer *et al.* Schafer *et al.* disposes photodiodes **14** arranged in a two-dimensional array on top of the substrate **12** (column 8, lines 6-7). Adhesively affixing the photodiodes **14** to the substrate **12** would have been obvious in view of the reference to the curing of epoxies in the plural at column 8, line 24 and the desire for dimensional stability. The presence of a film is disclosed at column 7, lines 42-50. The film is clear based on the requirement of Schafer *et al.* for "optically transmissive" at column 7, lines 49-50. The film is compliant based on the physical properties of a

medium **34** such as silicone. The film is preformed in view of the desire to control the quantity thereof used in assembling the module and quality assurance in matching the size of the interface between scintillators and photosensors. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the making of the module **20** of Hoffman *et al.* to comprise a step of performing a compliant, clear film as suggested by Schafer *et al.* and a step of placing the preformed film on top of the photosensor array in order to effect separation between the photosensor array and the array of scintillators to protect relatively fragile features on the photosensor array and facilitate transmission of light as suggested by Schafer *et al.* Furthermore, the assembly **10** of Schafer *et al.* comprises a clamping mechanism (grids **24** and **28**) clamping the array of scintillators **22** in place above and aligned with (Fig. **4**) the photosensor array. In view of the structural support and stability suggested by Schafer *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of making the module **20** of Hoffman *et al.* to further comprise a step of including such a clamping mechanism. The clamping mechanism suggested by Schafer *et al.* is "placed over" the photodiode array. Adhesively bonding the grid **28** to the substrate would have been obvious in view of the reference to the curing of epoxies in the plural at column 8, line 24 and the desire for dimensional stability. The thermal coefficient of expansion of the clamping mechanism suggested by Schafer *et al.* is relatively low (column 6, line 65). Since this lends structural support and stability to the detector array, and not just the scintillators **22**, it is considered that the "relatively" in the comparison made by Schafer *et al.* is with respect to the substrate **12**.

With respect to dependent claim 22, epoxy is a known material for the preformed, compliant, clear film suggested by Schafer *et al.* (column 7, line 51). Adhesion is a recognized property thereof.

With respect to independent claim 26, Hoffman *et al.* suggests a method for making the illustrated finished detector module **20** suitable for use in CT imaging systems, in which the module **20** includes an array of photosensors **66** optically coupled to an array of scintillators **74**, which would comprise the steps of disposing photosensor array **66** to a substrate **100**, electrically bonding a flexible cable **70** to the photosensor array **66**, and placing a scintillator array **74** on top of the photosensor array. Although scintillators **74** are positioned "above" and "adjacent" photodiodes **66** (column 3, line 16), Hoffman *et al.* is silent as to any air gap or the presence of any clamping mechanism. Nevertheless, in a method of making a finished detector module suitable for use in a CT imaging system, the presence of an air gap and a clamping mechanism is suggested by Schafer *et al.* Schafer *et al.* disposes photodiodes **14** arranged in a two-dimensional array on top of the substrate **12** (column 8, lines 6-7) and a clamping mechanism (grids **24** and **28**) clamping the array of scintillators **22** in place above and aligned with (Fig. **4**) the photosensor array with an air gap (column 7, line 50 and column 8, line 31). In view of the structural support and stability suggested by Schafer *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of making the module **20** of Hoffman *et al.* to further comprise a step of including such a clamping mechanism. The clamping mechanism suggested by Schafer *et al.* is "placed over" the photodiode array. Adhesively bonding the grid **28** to the substrate would have been obvious in view of the reference to the curing of epoxies in the plural at column 8, line 24 and the desire for dimensional stability. The thermal coefficient of expansion of the clamping mechanism suggested by Schafer *et al.* is relatively low (column 6, line 65). Since this lends structural support and stability to the detector array, and not just the scintillators **22**, it is considered that the "relatively" in the comparison made by Schafer *et al.* is with respect to the substrate **12**.

4. Claims 5, 25, and 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman *et al.* (US006144718A) in view of Schafer *et al.* US006091795A) and Wieczorek *et al.* (US006252927B1).

With respect to independent claim 5, Hoffman *et al.* discloses a finished detector module assembly **20** (Fig. **4**) suitable for use in a computed tomography (CT) imaging system (Fig. **2**) comprising a substrate **100**, an array of photosensors **66** mounted on the substrate **100** (Fig. **5**), an array of scintillators **74** optically coupled to the photosensor array (column 3, lines 18-19), and a flexible electrical cable **70** electrically coupled to the photosensor array. Although scintillators **74** are positioned "above" and "adjacent" photodiodes **66** (column 3, line 16), Hoffman *et al.* does not explicitly state that a gap is present. Nevertheless, in a finished detector module assembly suitable for use in a CT imaging system, the presence of a gap filled with a member of the recited group is completely well known. Schafer *et al.* discloses finished detector module assembly **10** suitable for use in a CT imaging system (Fig. **6**, column 5, line 64). The assembly **10** of Schafer *et al.* (Fig. **1-4**) comprises a substrate **12**, an array **14** of photosensors mounted on the substrate, an array **18** of scintillators **22** optically coupled to the photosensor array and separated therefrom by a gap ("region") containing medium **34**. The medium **34** is "air" (column 7, line 50) or silicone which qualifies as compliant based on its physical properties and clear based on the requirement of Schafer *et al.* for "optically transmissive" at column 7, lines 49-50. The standoff between the photodiode array and the scintillator crystal assembly in Schafer *et al.* protects fragile elements like wire leads **19**. The assembly **20** of Hoffman *et al.* likewise has fragile elements (for example, wire bonds **300**) thereon which one of ordinary skill in the art would have found obvious to protect when packing a plurality of photodiodes **66** and adjacent scintillators **74** together. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly

20 of Hoffman *et al.* to comprise a separation between the photosensor array and the array of scintillators to protect relatively fragile features on the photosensor array as suggested by Schafer *et al.*, and further to fill the gap with a member from the recited group to facilitate transmission of light as suggested by Schafer *et al.* Furthermore, the assembly **10** of Schafer *et al.* comprises a clamping mechanism (grids **24** and **28**) clamping the array of scintillators **22** in place above and aligned with (Fig. **4**) the photosensor array. In view of the structural support and stability suggested by Schafer *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly **20** of Hoffman *et al.* to further comprise such a clamping mechanism. The clamping mechanism suggested by Schafer *et al.* comprises a glass (column 7, line 1) which is "silica" but does not suggest the inclusion of a titanium oxide. Titanium, and specifically a titanium oxide, is recognized as useful by Schafer *et al.* for optical reflectivity contributing to opacity (column 8, lines 32-34 and column 7, lines 33-37). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made that a glass-based material for the grid **28** contain titanium oxide to achieve the critical feature of optical opacity. Hoffman *et al.* leaves the composition of the scintillators **74** to those "known in the art" (column 3, line 15). Yttrium gadolinium oxide is a known material for scintillators in a CT imaging system, as shown by Wieczorek *et al.* at column 1, lines 21-22. Since YGO is a typical material among a variety of effective performance, it would have been obvious to one of ordinary skill in the art at the time the invention was made to specify YGO as the scintillator material known in the art used for the scintillators **74** in the assembly **20** of Hoffman *et al.* The scintillators **22** suggested by Schafer *et al.* comprise an epoxy reflector material (column 7, lines 32-36). Hoffman *et al.* does not identify a material for the substrate **100**. The substrate suggested by Schafer *et al.* comprises a ceramic (column 7, line 57).

With respect to dependent claims 25 and 28, the clamping mechanism suggested by Schafer *et al.* comprises a glass (column 7, line 1) which is "silica" but does not suggest the inclusion of a titanium oxide. Titanium, and specifically a titanium oxide, is recognized as useful by Schafer *et al.* for optical reflectivity contributing to opacity (column 8, lines 32-34 and column 7, lines 33-37). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made that a glass-based material for the grid **28** contain titanium oxide to achieve the critical feature of optical opacity. Hoffman *et al.* leaves the composition of the scintillators **74** to those "known in the art" (column 3, line 15). Yttrium gadolinium oxide is a known material for scintillators in a CT imaging system, as shown by Wieczorek *et al.* at column 1, lines 21-22. Since YGO is a typical material among a variety of effective performance, it would have been obvious to one of ordinary skill in the art at the time the invention was made to specify YGO as the scintillator material known in the art used for the scintillators **74** in the assembly **20** of Hoffman *et al.* The scintillators **22** suggested by Schafer *et al.* comprise an epoxy reflector material (column 7, lines 32-36). Hoffman *et al.* does not identify a material for the substrate **100**. The substrate suggested by Schafer *et al.* comprises a ceramic (column 7, line 57).

5. Claims 7, 8, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman *et al.* (US006144718A) in view of Schafer *et al.* (US006091795A) and Iwanczyk *et al.* (US005773829A).

With respect to independent claim 7, Hoffman *et al.* discloses a finished detector module assembly **20** (Fig. **4**) suitable for use in a computed tomography (CT) imaging system (Fig. **2**) comprising a substrate **100**, an array of photosensors **66** mounted on the substrate **100** (Fig. **5**), an array of scintillators **74** optically coupled to the photosensor array (column 3, lines 18-19), and a flexible electrical cable **70** electrically coupled to the photosensor array. Although scintillators **74** are

positioned "above" and "adjacent" photodiodes **66** (column 3, line 16), Hoffman *et al.* does not explicitly state that a gap is present. Nevertheless, in a finished detector module assembly suitable for use in a CT imaging system, the presence of a gap filled with a member of the recited group is completely well known. Schafer *et al.* discloses finished detector module assembly **10** suitable for use in a CT imaging system (Fig. **6**, column 5, line 64). The assembly **10** of Schafer *et al.* (Fig. **1-4**) comprises a substrate **12**, an array **14** of photosensors mounted on the substrate, an array **18** of scintillators **22** optically coupled to the photosensor array and separated therefrom by a gap ("region") containing medium **34**. The medium **34** is "air" (column 7, line 50) or silicone which qualifies as compliant based on its physical properties and clear based on the requirement of Schafer *et al.* for "optically transmissive" at column 7, lines 49-50. The standoff between the photodiode array and the scintillator crystal assembly in Schafer *et al.* protects fragile elements like wire leads **19**. The assembly **20** of Hoffman *et al.* likewise has fragile elements (for example, wire bonds **300**) thereon which one of ordinary skill in the art would have found obvious to protect when packing a plurality of photodiodes **66** and adjacent scintillators **74** together. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly **20** of Hoffman *et al.* to comprise a separation between the photosensor array and the array of scintillators to protect relatively fragile features on the photosensor array as suggested by Schafer *et al.*, and further to fill the gap with a member from the recited group to facilitate transmission of light as suggested by Schafer *et al.* The assembly **10** of Schafer *et al.* further comprises a clamping mechanism (grids **24** and **28**) clamping the array of scintillators **22** in place above and aligned with (Fig. **4**) the photosensor array. In view of the structural support and stability suggested by Schafer *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly **20** of Hoffman *et al.* to further comprise such a clamping mechanism.

Schafer *et al.* does not describe any other preparation for the facing surfaces of the photosensor array and array of scintillators. Nevertheless, when scintillators confront photodiodes over a gap filled with a medium, it is known to coat at least one of the facing surfaces with an antireflection film, as shown by Iwanczyk *et al.* at column 9, lines 25-27. In view of the maximization of the quantum efficiency of the photodiodes suggested by Iwanczyk *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly suggested by Hoffman *et al.* and Schafer *et al.* to comprise an antireflection film on at least one of the facing surfaces.

With respect to dependent claim 8, while Iwanczyk *et al.* explicitly discloses coating the surface of the photosensor array with an antireflection film (column 9, lines 25-27), it would have been obvious to one of ordinary skill in the art at the time the invention was made to coat any or every surface at which the index of refraction changed (as between the scintillator and the medium **34** suggested by Schafer *et al.*) instead of or in addition to the coating suggested by Iwanczyk *et al.* in view of the improvements in quantum efficiency expected.

With respect to dependent claim 29, Schafer *et al.* does not describe any other preparation for the facing surfaces of the photosensor array and array of scintillators. Nevertheless, when scintillators confront photodiodes over a gap filled with a medium, it is known to coat at least one of the facing surfaces with an antireflection film, as shown by Iwanczyk *et al.* at column 9, lines 25-27. In view of the maximization of the quantum efficiency of the photodiodes suggested by Iwanczyk *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of making the module suggested by Hoffman *et al.* and Schafer *et al.* to comprise the step of coating an antireflection film on at least one of the facing surfaces.

6. Claims 11-14 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman *et al.* (US006144718A) and Schafer *et al.* (US006091795A) and Iwanczyk *et al.* (US005773829A) as applied to claims 7 and 29 above, and further in view of Yamashita *et al.* (US004823016A).

With respect to dependent claim 11, Schafer *et al.* does not describe any other preparation for the facing surfaces of the photosensor array and array of scintillators. Nevertheless, when scintillators confront photosensors over a gap filled with a medium, it is known to polish at least one of the facing surfaces, as shown by Yamashita *et al.* at column 4, lines 19-20. In view of the improved transmission of light out of the scintillators as would be recognized by those of ordinary skill in the art from the disclosure of Yamashita *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly suggested by Hoffman *et al.* and Schafer *et al.* and Iwanczyk *et al.* to comprise a polished surface on at least one of the facing surfaces.

With respect to dependent claims 12-14, while Yamashita *et al.* explicitly discloses polishing the surface of the scintillator array **12** (column 4, lines 19-20), it would have been obvious to one of ordinary skill in the art at the time the invention was made to polish any or every surface at which the index of refraction changed (as between the scintillator and the medium **34** suggested by Schafer *et al.*) instead of or in addition to the polishing suggested by Yamashita *et al.* in view of the improvements in light transmission expected.

With respect to dependent claim 30, Schafer *et al.* does not describe any other preparation for the facing surfaces of the photosensor array and array of scintillators. Nevertheless, when scintillators confront photosensors over a gap filled with a medium, it is known to polish at least one of the facing surfaces, as shown by Yamashita *et al.* at column 4, lines 19-20. In view of the

improved transmission of light out of the scintillators as would be recognized by those of ordinary skill in the art from the disclosure of Yamashita *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of making the module suggested by Hoffman *et al.* and Schafer *et al.* and Iwanczyk *et al.* to comprise the step of polishing at least one of the facing surfaces.

Response to Submission(s)

7. The amendment filed January 21, 2003 has been entered.

8. Applicant's arguments filed January 21, 2003 have been fully considered but they are not persuasive.

The position that Figs. **1** and **2** are not prior art is less than convincing. Figs. **1** and **2** in this application are an exact copy of the views of the same number, with the same reference symbols, in United States Patent 6,144,718. Since this patent is available under 35 U.S.C. 102(e) at least, it, and all the views therein, constitutes prior art. Any inclusion or configuration alleged is not apparent from these views. The presence of reference symbols in Figs. **3** and **4** in this application which are not found in the views of the same number in United States Patent 6,144,718 lend the barest support to the position that Figs. **3** and **4** are not prior art.

Schafer *et al.* incontrovertibly states that the "three-dimensional alignment grid **28** is preferably made of an optically opaque material which has a relatively low coefficient of thermal expansion, so as to lend structural support and stability to the detector array during operation of the scanner." By pointing out that the list of materials of which grid **28** may be made is the same as the list of materials of which substrate **12** may be made, the effect of the argument made by Applicant's representative is that "relatively" in the quoted disclosure has no meaning. Applicant's position is wholly unpersuasive, as no part of the disclosure can be made a nullity. The position goes beyond

the disclosure in insisting that the substrate **12** and the grid **28** are made of the same material when all that is required of those of ordinary skill in the art is to choose a material for grid **28** which has, in accordance with the explicit teaching therein, a "*relatively* low coefficient of thermal expansion," which is reasonably foreseeable as being accomplished by a choice of different materials for the grid **28** and the substrate **12**. While Applicant's representative disagrees with the Examiner's assessment that the "relatively" is with respect to the substrate **12**, such disagreement is not the same as pointing out which other element of the construction of Schafer *et al.* is a better candidate for the comparison and why one of ordinary skill in the art would have understood that to be the case, especially since the Examiner has already set out a line of reasoning why the comparison is not to the scintillators **22**.

Titanium dioxide is a species within the genus of titanium oxide, so no distinction on that basis will be afforded. Applicant's representative simply ignores the Examiner's line of reasoning why it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a titanium oxide in the glass for the grid **28** rather than in the epoxy but this does not constitute a rebuttal.

An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). Accordingly, the reply at least as it refers to the application of the Wieczorek *et al.* reference is inadequate. When the material of scintillators **74** in the "computed tomography (CT) imaging system **10**" of Hoffman *et al.* is not identified, it does not take more than ordinary skill in the art to look to other prior art such as that afforded by Wieczorek *et al.* to identify a suitable material. The Examiner's position is based upon a prospective view of the teachings known to have existed in the

art with the application of knowledge clearly present in the prior art. *In re Sheckler*, 483 F.2d 999, 1001, 168 USPQ 716, 717 (CCPA 1971).

The repetitious, rote denial that the combinations are proper is unimpressive. The clear lack of understanding regarding the application of the references (for example, suggesting that Hoffman *et al.* is cited "for its teaching of a flexible cable") renders the arguments unpersuasive.

For at least the reasons explained above, Applicant is not entitled to a favorable determination of patentability in view of the arguments submitted January 21, 2003.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (703) 308-4850. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (703) 308-4852. The fax phone numbers for the organization

where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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February 25, 2003